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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/576,113	05/22/2000	Marijn E. Brummer	5543-5	2804

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EXAMINER

LU, TOM Y

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 09/09/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/576,113

Applicant(s)

BRUMMER, MARIJN E.

Examiner

Tom Y Lu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06/30/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 May 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment and written response filed on June 30, 2003 has been entered.
2. Claims 1-17 are pending.

Response to Arguments

3. Applicant's arguments filed on June 30, 2003 have been fully considered but they are not persuasive.

Applicant argues the combination of the Ozeki reference and the Adler reference is improper because the Ozeki reference discloses an object rendering method; the Adler reference is wire frame approximation process. Two references do not perform similar tasks and are not directed to solving the same problem, thus one of ordinary skill in the art would not combine the references or modify one in view of the other.

Upon further review of specification, and in light of applicant's arguments, the examiner agrees Ozeki cannot be combined with Adler. Nonetheless, the use of a 3-D model device, in communication with the imaging device, for generating a 3-D model based upon the one or more plane images acquired from the image device, is well known in the art. Consequently, the examiner incorporates new references in the following non-final office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Pieper (U.S. Patent No. 6,151,404).

- a. Referring to Claim 1, Pieper discloses an imaging device for acquiring one or more plane images of the subject (Pieper at column 4, lines 3-4, “teaches a plurality of 2-D slice images generated by scanning a structure”, and such scanning device is a CT scanner as described at column 6, lines 63-64); a 3-D model device, in communication with the imaging device, for generating a 3-D model based upon the one or more plane images acquired from the imaging device (Pieper at column 4, lines 59-60, teaches “assembling an appropriate set of scanned 2-D images into a 3-D database”, and “extracting computer models of patient specific anatomical structures from the information contained in the 3-D database”. Note such computer models are 3-D models as described at column 3, line 50); an input device for receiving operator input (Pieper at column 9, lines 22-23, discloses his invention is implemented on with a computer, therefore the input devices are a mouse and a keyboard, which are the input devices 55 described in column 9, line 64), wherein the operator input defines an operator defined plane (Pieper at column 4, lines 8-10, teaches means for selecting a particular 2-D slice image), and wherein a scan model of the operator defined plane is incorporated into the 3-D model (Pieper at column 4, lines 15-18, teaches inserting the selected slice image into 3-D computer model), and a display for presenting the 3-D model, wherein the 3-D model includes the operator defined

plane (Pieper at column 4, lines 20-24, teaches means for displaying an image of the augmented 3-D computer model, and the specific 2-D slice image incorporated in to the model), such that the operator can define an orientation of the operator defined plane in relation to one or more subject landmarks defined by the plane images acquired from the imaging device (Pieper at column 10, lines 33-34, teaches “the physician can use input devices 55 to instruct the image rendering software as to the particular angle of view desired”).

- b. Referring to Claim 2, Pieper discloses further comprising a scan geometry module that communicates with the input device to receive the operator input, wherein the scan geometry module generates scan geometry parameters representative of the operator input and communicates the scan geometry parameters to the imaging device such that the imaging device can acquire the operator defined plane (Pieper at column 3, lines 52, discloses a “a 3-D geometry database” which is the claimed “geometry module”).
- c. Referring to Claim 3, Pieper discloses wherein the 3-D model device updates the 3-D model to include the acquired operator defined plane (Pieper at column 10, lines 59-64, teaches the user can define the plane as he desires, which the model will be updated accordingly).
- d. Referring to Claim 4, Pieper discloses wherein the input device enables the operator to define a new operator defined plane after the 3-D model has been updated to include the previously acquired operator defined plane (column 10, lines 59-64).

- e. Referring to Claim 5, Pieper discloses wherein the 3-D model device includes a scan model, for receiving the scan geometry parameters, and a subject model, for receiving image data from the imaging device (Pieper at column 3, line 52, discloses the first software object in the 3-D computer model is a 3-D geometry database, which corresponds to the claimed “scan model”, and at column 3, lines 53-60, teaches a second software object, which inserts the 2-D slice image data into 3-D model, which corresponds to the claimed “subject model”).
- f. Referring to Claim 6, Pieper discloses wherein the imaging device is selected from one of the group consisting of a magnetic resonance imaging scanner and an ultrasound machine (Pieper at column 6, lines 63-64, teaches the scanning device is preferred to be a CT scanner, however, MRI and ultrasound device are applicable as well, column 1, lines 23-24).
- g. Referring to Claim 7, Pieper discloses wherein the input device enables the operator to alter the orientation of the operator defined plane in the 3-D model, such that the operator can interactively manipulate and view, via the display, the defined plane in the 3-D model to facilitate the determination of a desired operator defined plane (column 10, lines 1-10).
- h. With regard to Claim 8, all the limitations are addressed in Claim 1.
- i. With regard to Claim 9, all the limitations are addressed in Claim 2.
- j. With regard to Claim 10, all the limitations are addressed in Claim 3.
- k. With regard to Claim 11, all the limitations are addressed in Claim 4.
- l. With regard to Claim 12, all the limitations are addressed in Claim 4.

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- m. With regard to Claim 13, all the limitations are addressed in Claim 7.
- n. With regard to Claim 14, the only difference between Claim 14 and Claim 1 is Claim 14 calls for a computer program, Pieper discloses using Apple Quicktime software.
- o. With regard to Claim 15, all the limitations are addressed in Claim 10.
- p. With regard to Claim 16, all the limitations are addressed in Claim 12.
- q. With regard to Claim 17, all the limitations are addressed in Claim 11.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Y Lu whose telephone number is (703) 306-4057. The examiner can normally be reached on 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Tom Y. Lu


LEO BOUDREAU
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